REMARKS

Claims 1-17 have been canceled herein without prejudice, and claims 18-32 have now been added. The newly added claims are not directed toward any new matter. In this regard, composition claims 18-23 find full support, *inter alia*, on pages 2-4, 14, and in original claim 4 of the specification, and method claims 24-32 find support, *inter alia*, on pages 5-6 of the application and on page 9, line 20 to page 13 and in the drawing figures.

Turning now to independent composition claim 18, an autogenously curable aerated concrete composition is claimed. The composition has non-aqueous components that include fly ash, Portland Cement, reinforcing fibers, aluminum activating agent, and calcium chloride accelerator. Additionally, water is present in the composition in an amount of about 20-60% based on 100 parts by weight of the non-aqueous components present in the curable concrete composition.

Independent method claim 24 indicates that the components set forth in claim 18 are mixed in a mold having a volume of at least about 32 cubic feet. (See page 5, lines 2-3 of the instant application). The mixture is autogenously cured in the mold at temperatures of about 150°F - 180°F. Then, the cured material is removed from the mold and cut into the desired dimensions for building material shapes.

Dependent method claim 25 indicates that the autogenous curing in the mold is conducted under time and temperature conditions as set forth in Fig. 3 of the drawings. Also, in another feature of the claimed method, as set forth in dependent claim 26, the cut building material shapes are formed into an assembly and then wrapped with a vapor impervious means. This wrapping maintains the moisture in the cut building material shapes to impart enhanced compressive strength thereto and inhibit drying shrinkage. (See page 11, lines 2-7).

Independent method claim 28 is directed, *inter alia*, to a method in which fly ash, Portland cement, and foam activator are mixed with water, placed in a mold of at least 32 cubic feet, autogenously heated at the time and temperature conditions shown in Fig. 3 to cure, removed from the mold and then cut.

Independent method claim 29 pertains to methods for making aerated cementitious building materials from fly ash, Portland cement and foam activator. Similar to claim 24, the mixture is placed in a mold having a volume of at least about 32 cubic feet. The material is cured autogenously at temperatures of about 150-180°F. The cured materials are cut into desired building shapes.

Claim 30 depends from claim 29 and indicates that the foam activator comprises Al paste and surfactant. Further, fly ash, Portland, and water are pre-mixed to form a temperature controlled slurry having a temperature of about 112-118°F. The foam activator is then added to this temperature controlled slurry. Support for this claim can be specifically seen at page 9, l. 20, page 10, l. 17.

Dependent claim 31 indicates that $CaCl_2$ accelerator is added to the temperature controlled slurry and dependent claim 32 sets forth the resulting compressive and flexural strengths of the formed products in accordance with the disclosure at Table 1 and 2, page 11 and in original claim 16.

All of the claims stand rejected on art based grounds in light of Castro 6,203,609 or Plunguian 4,077,809. Turning first to Castro, there is no hint or suggestion therein directed toward the specific calcium chloride accelerator now set forth in independent claim 18.

Turning now to Plungian 4,077,809, this discloses a cellular product which may include a foaming concentrate comprising various surfactants and guar gum as set forth at column 3, lines 35-40 of the '809 reference. It is respectfully submitted that the skilled artisan, after a reading of the '809, would not be led in the direction of utilizing an aluminum based activator as required in the instant composition claims. More specifically, the criticality of the combination of guar gum and vinyl acetate acrylic copolymer emulsion is shown at column 4, lines 23-43 of the '809 reference. This particular combination is utilized to enhance the stability of the foams that are formed in accordance with this prior art reference via the utilization of the specific foaming concentrates set forth at column 3 of the '809. It would not be logical for the skilled artisan, after a fair reading of the '809, to substitute a new, aluminum based activating agent, into the disclosure

of the '809 after the '809 inventor had found that stability of the foams was enhanced via the criticality of the combination of guar gum and vinyl acetate acrylic copolymer emulsion.

Additionally, the '809 reference patent is not at all suggestive of the utilization of a calcium chloride accelerator as required herein in the composition claims at bar.

Turning now to the method claims, neither of the cited references is suggestive of utilizing a mold having a volume of at least about 32 cubic feet in a process for autogenous curing of cementitious mixture. This recitation appears in all of the independent method claims, i.e., claim 24, claim 28 and claim 29. As to the provision of molds of this large volume, the instant application indicates that formation of a large mass of cementitious material is desirable so that the heat is distributed throughout the curable material. This helps to ensure that the temperature of the mixture in the mold increases to between about 150°F and 180°F. (See page 5, last paragraph). This elevated temperature greatly enhances the autogenous curing and ultimate strength of the product.

The prior art is in no way suggestive of autogenous curing of the material in such a large mold followed by cutting of the cured material into desired building material shapes as is recited in claims 24, 28 and 29. In contrast, products made in conventional autoclave cured processes are often cut in their uncured or "green" state. This necessitates use of expensive cutting equipment and results in longer, uneven cut surfaces.

Neither Castro or Plungian '809 is suggestive of the wrapping of the cut assembly of formed shapes with a vapor impervious means to maintain moisture in the cut building material shapes to impart enhanced compressive strength to those blocks (see claim 26).

The art is also deficient in making any suggestion of the pre-mixing of fly ash, Portland cement and water and control of this pre-mix slurry to a temperature of about 112-118°F with subsequent addition of the foam activator to the pre-mix slurry as is now indicated in dependent claim 30. As the specification indicates, this step is desirable to control the "reaction of the Al and the rise of the Product" and "plays a key role in the ultimate temperatures that are obtained." (Page 9, l. 20-31).

The compositions and methods of the invention produce aerated concrete in a quick and economical manner so that the products made in accordance with the invention can favorably compete in the marketplace with conventional autoclave cured concrete products and traditional building materials such as wood.

For the above noted reasons, the solicited method claims do not represent "simply known" "conventional" methods. As the application itself indicates, the compositions and methods are of "significant commercial interest" and result in a quickly setting durable, light weight aerated concrete product. The processes provide considerable savings in investment requirements compared to autoclave methods (See page 15).

It is respectfully submitted that all claims are in full conformity with the patent statutes. A prompt indication of allowance is earnestly solicited.

The Examiner is respectfully requested to contact the undersigned at the telephone number below should any further questions arise during the course of examination of this patent application.

Respectfully submitted,
WEGMAN, HESSLER & VANDERBURG

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By _____
Bruce E. Peacock
Reg. No. 28,457

Suite 200
6055 Rockside Woods Boulevard
Cleveland, Ohio 44131
216/642-3342